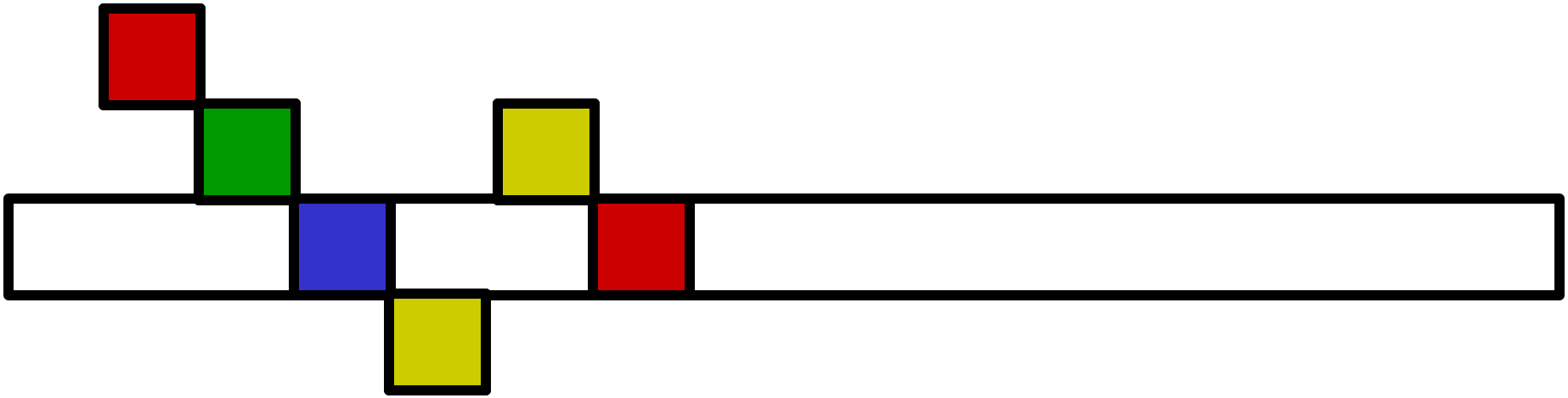


Transmission Line Constraints

By: James Leigh-Kendall
Sacramento Municipal Utility District

Commission Questions

- **Issue 1: Are requirements to conduct transmission line interconnection studies delaying certification of new projects?**
- **Issue 2: Are siting constraints caused by transmission congestion and lack of access to markets?**

Issue 1: Transmission Studies

- Studies need conducted before interconnecting a new project so that grid reliability is preserved.
- Can be concurrent and time limited process with other licensing issues
- SMUD supports a common process and rules for Interconnection that protects grid reliability.

Issue 2: Siting Constraints and Transmission Upgrades:

- SMUD's core concern is that new projects ADD to system capacity to serve load growth.
- New projects should not displace existing transmission already serving load.

Issue 2: Continued

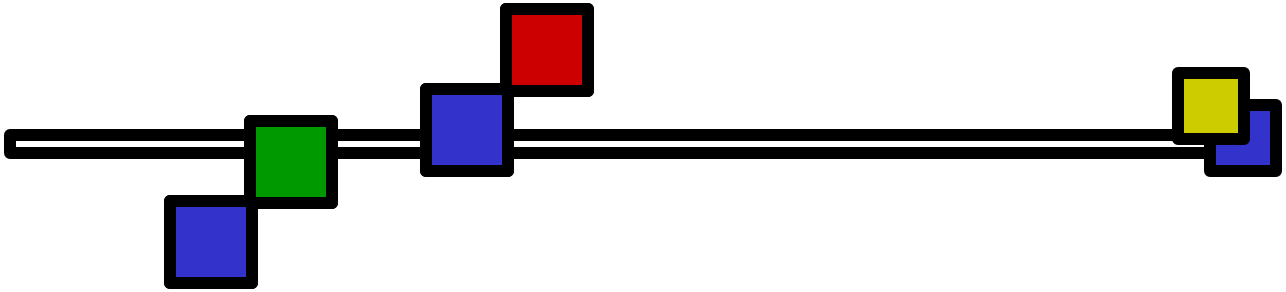
- Requiring the last plant to pay transmission costs to fix the issue is a disincentive to build.
- Relieving new plants of any upgrade costs mutes the cost signal to site a plant in an area without transmission limitations, such as near the load.
- RAS is becoming the route of first choice; but this does not allow load growth to be met by new plants

Where have we Been

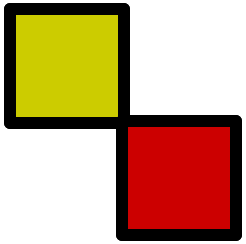
- Historical concept of one Transmission Owner or generator paying for an upgrade to keep the system whole in system normal and N-1 conditions
- Anyone can use margin until the next limit is hit
- Fairness questions among Merchant plants and new interconnections.

Concepts to Consider

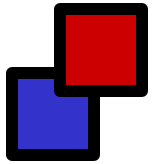
- Transmission improvements come in blocks and regional support that are not sized just for a specific project or need.
- RAS is always cheaper and can meet reliability standards, but does not promote adequacy.



What are the RAS issues?



- Compounding impact of multiple RAS unknown. System Cascading?
- RAS schemes bump the most efficient unit off line when needed the most.



More Issues

- System constraints must be solved by upgrades, not curtailment, if load growth is to be served reliably.
- The equation for completing the planning process should focus on both the adequacy of supply to meet the peak load reliably, and designing a reliable system.

Recommendation

- SMUD supports interconnection policies that preserve grid capabilities to serve load growth
- SMUD supports new concepts like cost sharing of upgrades between the generator and the other grid users

Final thoughts

- Transmission upgrades need to be consecutive to provide adequate and reliable service.
- Load Growth, Generation Additions, and Transmission Additions go hand in hand.
- Interconnection Studies must be conducted, and Grid upgrades made to accommodate new Generation.